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String Geometry Phenomenology

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String geometry theory is one of candidates of the non-perturbative formulation of string theory. In order to derive low-energy phenomena, we first need to clarify how supergravity background fields, which represent the space-time and the internal space, are described in string geometry theory. In this presentation, we show that arbitrary configurations of the heterotic supergravity background fields are embedded in configurations of fields of string geometry theory. Especially, the configurations of string geometry satisfy equations of motions of string geometry theory if the embedded supergravity backgrounds satisfy the equations of motions of the heterotic supergravity. We can obtain the perturbative heterotic string theory on the flat space-time if we take the Newtonian limit around the configuration of string geometry corresponding to the flat space-time. Thus, we expect that we can also obtain the perturbative heterotic string theory on the supergravity backgrounds if we take the Newtonian limit around the configurations of string geometry corresponding to the supergravity backgrounds.

Presenter: Prof. SATO, Matsuo

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